



Always around

FIBROUS

FIBROUS CASINGS / PRODUCT GUIDE

ViskoTeepak in brief.

ViskoTeepak is one of the biggest manufacturers of fibrous, cellulose and plastic casings in the world. We have production plants, converting facilities and technical support offices worldwide. We're also proud to have the industry's largest business-partner network, through which our products are offered in nearly 100 countries. Our head office (ViskoTeepak Holding Ab), which opened in May 2018, is located in Mariehamn, in Finland's Åland Islands.

In Europe, we have fibrous and cellulose production plants in Lommel (Belgium) and Hanko (Finland). Additionally, we have a plastic-casing production plant in Nuevo Laredo (Mexico). Our converting facilities are located in Delfzijl (Netherlands), Brno (Czech Republic), Kenosha (Wisconsin, USA) and Poznan (Poland). Our sales and representative offices are located all around the globe.

ViskoTeepak is owned by the Eriksson Capital Group, based in Mariehamn, Finland. Eriksson Capital is a privately owned investment company with a focus on small to medium-size high-tech industrial companies operating in the global marketplace. Eriksson Capital is active in various industries such as medical tubing, shipping, real estate, aircraft leasing and asset management.



Learn more at:



viskoteepak.com



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Statement

ViskoTeepak verifies that all information given in this product guide is based on our best knowledge and information. ViskoTeepak does not guarantee the accuracy and/or completeness of the information. This guide is solely intended for general information and is not intended to be used as the primary basis for commercial decisions. When starting to use ViskoTeepak products, it is always recommended to complete a product qualification process. The risks associated with the use of ViskoTeepak products is limited to the conditions

defined in the "General Sales Terms and Conditions". These can be consulted at ViskoTeepak.com.

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The evolution of ViskoTeepak.



Always around



1950

Gunnar Eriksson was enjoying a famous Scandinavian smorgasbord on a ferry boat in between Finland and the Åland Islands. While enjoying a tasteful sausage, he noticed the casing was made artificially which caught his interest. He got so curious he put a piece of the casing into his pocket and had it analyzed in a laboratory.



1965

The converting center in *Delfzijl, Netherlands* opened.



1962

Visko started to manufacture fibrous casings.



1952

Gunnar became convinced artificial casing was the future. He wanted to take part in this industry and raised some money to start the Visko Company in *Hanko, Finland*.

Visko started to manufacture cellophane casings with just 30 employees.





1975

The cellulose and fibrous manufacturing plant in Lommel, Belgium was established.



1994

The cellulose converting center in the *Czech Republic* opened.



1995

Production of Nova plastic casing started.



2007

The current owners of ViskoTeepak believed in the future of the industry and were willing to create a world-leading seller, producer, and supplier of artificial casings.

By merging Visko and Teepak into one, a new era began!



Today

ViskoTeepak is **#MakingFoodMoreAccessible** by tailor-making productive solutions in close collaboration with the global food chain.



2052 - The Future

ViskoTeepak is 100 years old! We are now serving your casing needs around the globe in just minutes with our new drone delivery service!



2020

The fibrous converting center in Poznan, Poland was acquired.



2014

The fibrous converting center in Kenosha, USA merged with ViskoTeepak.



2011

The sales and logistics center in Hamburg, Germany was acquired.

Brand Cornerstones.

ViskoTeepak is a global brand with a local touch that delivers tailor-made productive casing solutions. We understand the needs of our customers and nurture long-lasting mutually beneficial and rewarding relationships. What are we referring to when we talk about our Brand Cornerstones?

Brand Cornerstones



Tailor-making

Our goal is to tailor-make the most productive casing solution for each customer. We're willing to go the extra mile to craft each product to perfectly fit our customers' needs. This makes our products unique and gives our customers the ability to produce with great efficiency and high quality.

Productive Solutions

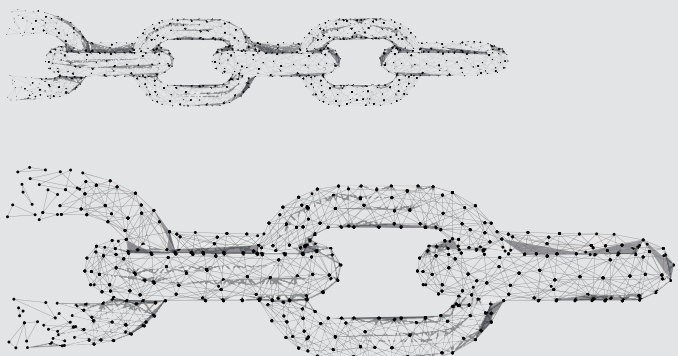
We offer the world's most productive casing solutions. We constantly improve and develop new solutions that bring value. We're creative, and we sustainably develop our products.

If there's a better way, we'll find it.



Teamwork

Our success is achieved with inclusiveness and collaboration. We work closely with our customers so that we can identify their specific needs. We're in it for the long run, and together with our Partners, we'll always be around to support you.



Company culture.

The company culture is the personality of the company. At ViskoTeepak we base our business and our culture on three company Values: Trust, Ambition and Fun. What do we mean when we talk about these values?

Values

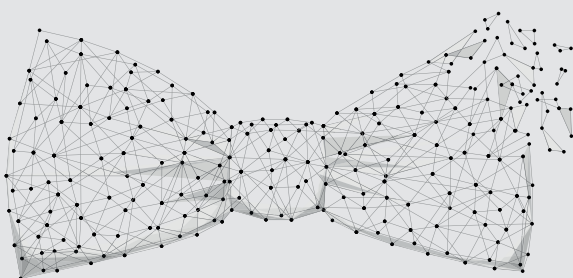


Trust

Trust is built on credibility, being fair, and treating each other with respect. We earn trust by delivering on our promises, which is particularly true for how we manage our business and our people. Respecting your colleagues regardless of their age, sex or race is a base requirement for a fair working community.

Ambition

We have a strong desire to be the best and want to be ambitious on our road to success. That is why we will walk the extra mile to help our customers and partners to succeed in their business. Our “can-do” mentality creates energy and by providing training and development opportunities, we make sure we reach our goals.



Fun

Fun is created by being successful in achieving your goals and by working with a team of people that you trust and feel connected to. It creates the energy that we need for taking on the next challenge!

What is the Fibrous casing?

Fibrous casing is a cellulose-based casing strengthened with natural long-fibered abaca paper, sometimes called manila hemp fiber, which combines exceptionally high tensile strength with consistent extrusion properties in a form that renders it ideally suited for sausage casings. Due to its strength and dimensional stability, fibrous casing is traditionally seen as one of the most versatile and comprehensive packaging materials.

Tailor-made products

The ViskoTeepak's Fibrous casing can be tailor-made to fit any application and production process. First of all, the right paper needs to be selected in terms of size, strength and extension properties. Secondly, the cellulose, or "viscose," which is the technical name given to the soluble derivative of naturally occurring cellulose, is coated in a single or double layer and to the extent that's required by the application and sausage process.

In the case of ViskoTeepak, this latter form of cellulose is derived from the highest grades of purpose-grown pine trees. Once regenerated upon its abaca fibrous matrix, a variety of subsequent special treatments creates a casing to suit the most complex demands of the meat processor.

ViskoTeepak's Fibrous casing offers the world's widest choice of possibilities of tailoring to the specific needs of the meat producer or food packager. From this experience, we've developed a range of fibrous casings in over 80 different calibers and some 20 standard and variable non-standard colors to suit all applications, for both automatic and manual operations.

Adhesion levels

The basic fibrous casing, as previously described, is treated in a plasticization stage that involves multiple passes prior to drying, depending on the intended use. This ensures that the adhesion level of the casing is perfect for each application and production process. The casing can be sold as regular or treated with a meat-cling and easy-peel coating and impregnation. Also, the adhesion levels and properties can be tailored to any application and process conditions. Improved meat-cling is obtained by applying a substance that acts as a binding agent between the fibrous material of the casing and the proteins in the meat. Whenever easy-peel properties are required, the internal surface of the casing is treated with a release agent.

Fibrous casing composition

The average fibrous casing, regardless of its type and size, has the following chemical composition:

Component	Colored or clear	Heavy-pigmented
Regenerated cellulose	50%	40%
Long-fiber paper	25%	20%
Plasticizer	20%	20%
Water	5%	5%
Casing color pigment	<1%	15%
Meat-cling/easy-peel ingredient	<1%	

Strength and stretchability

Many of the properties of a fibrous casing derive from the use of long-fiber paper in its construction. In order to activate these excellent properties, the casing has to be moisturized. A dry casing has strength but no elasticity. By effective moisturizing methods—i.e., pre-soaking in connection with customizing or soaking immediately before use in the sausage factory—the casing is given the right combination of strength and stretch in order to ensure trouble-free sausage processing operations. ViskoTeepak can also offer the Ready-to-Use (RTU) pre-moisturized casing options that make it possible to use shirred strands straight out of the box while eliminating the risk of contamination from soaking water.

The right permeability

Fibrous casing is permeable to gases. This property plays a crucial role in the process where smoking, maturing and drying are required. By controlling the permeability levels of both water and gases, the casing will dry and shrink in a uniform way and allow the proper smoke transmission while maintaining caliber stability, thus ensuring very high yields.

Tailor-making the right solution

A wide variety of fibrous casings is available to meet the most demanding needs of the sausage maker. Their mechanical strength, dimensional stability and uniformity, treatments for permeability and surface properties, printability and other customization options are among the possibilities that make fibrous casings the most versatile type of casing product.

Testing

For particular sausage-making processes for which the type and caliber of casing haven't yet been established through experience, tests should be run under the prevailing production conditions in order to determine the most suitable fibrous casing. Please look through this brochure and let us know which products interest you. By working together, we'll set you on your way to a perfectly tailored casing that's based on the information

you provide. The trials must comply with specific rules. Before starting this process, it's essential for us to obtain at least the following information:



To facilitate testing and matching:

 <p>Processing Is the product cooked, dry, semi-dry, etc.?</p>	 <p>Size What is the desired size of the sausage after stuffing?</p>	 <p>Weight What is the weight of the product?</p>	 <p>Slicing/packaging Is the product sliced in-house, and how is it eventually packed?</p>
 <p>Converting What type of converting is required, particularly in terms of horn diameter and length?</p>	 <p>Strand/horn length What are the usable horn length, the maximum strand length and the maximum stuffing diameter?</p>	 <p>Current casing Which casing do you currently use? If possible, please provide us a sample.</p>	 <p>Annual volumes What is the prospective annual casing usage or product volume?</p>

SVC and DVC.

Fibrous is a modified cellulose casing in which the hemp fiber (a special paper that's highly resistant to wet tearing) is coated with viscose. There are two methods used to manufacture fibrous casings, as it can be coated with viscose on either or both sides. ViskoTeepak's Fibrous casing uses the special features of both methods to achieve the best end-customer benefit. The former (SVC) means coating the outside of the paper, and the latter option (DVC) includes coating on both sides.

Different advantages and possibilities

Both technologies can provide a superior product, but they do so for different applications. They're both used where high mechanical resistance, size control, uniform smoke transfer and controlled peelability are required, such as with pepperoni, salami, luncheon meats, boneless hams and other deli-style processed meats. Fibrous casing is the preferred choice for slicing products that require precise diameter control. These are the typical features of both Fibrous casing types, i.e., SVC and DVC, because ultimately it comes down to the difference between the construction types and how to use their features to achieve the highest productivity in operation. Moreover, it's essential to marry the right casing with the right application.

The look of the sausage

DVC has a less glossy appearance due to less viscose on the outer side compared to SVC. This feature gives a DVC-made sausage a more matte-satin like finish. DVC is also less prone to wrinkling when stored unpacked due to its unique shrinkability and construction. SVC gives a shinier look to the sausage due to the thicker viscose layer on the outside of the paper. ViskoTeepak has the most comprehensive selection of fibrous casings as it comes down to the look of the sausage and not only sizes. ViskoTeepak has developed two extremes in terms of appearance. The development of Satin represents one of the most matte casings in the fibrous world, while Brilliant has become a big success among customers who like the extreme glossy look and the enhanced presentation it ensures.



The look of the peeled sausage

A sausage produced in DVC casing has an attractive glossy look when the sausage is peeled. A sausage produced in SVC casing has more of a matte look. The latter feature can be a benefit for applications such as spice-coated because the coating adheres to the surface during the slicing and packaging process.

Perfect adhesion

SVC is normally the preferred choice when very high meat adhesion is required. Meat-cling is required for applications where the casing remains on the sausage through the whole slicing operation, for which the maturation and drying process is often very long. Fibrous DVC is mainly sold as high-precision casing due to the patented technology from ViskoTeepak. By controlling the inner adhesion levels, we can accomplish absolute consistency along the entire surface of the sausage. It's an indisputable value for any application in which adhesion control is critical.

Machinability and size control

When used for stuffing at high speeds, DVC has shown a high resistance to breakage. This is due to its thinner and more flexible nature. In whole-muscle products such as pork loin and turkey ham, the smooth inner surface of the DVC construction has become a benefit resulting in easier filling and fewer breakages. SVC can offer very good size stability due to its thicker construction and is perfect for slicing applications that require consistent size control.

Converting

Less prone to shrinkage, SVC can be manufactured with a maximized dry flat width and optimized to convert more meters in a strand and facilitate a bigger sized stuffing tube. This results in a fast operation for customers that will increase yields. The DVC construction benefits from other features and can also allow the convertor to shirr more meters in a strand for other applications.

SVC gives a shinier look to the sausage due to the thicker viscose



SVC fibrous features	DVC fibrous features
Glossy look to the products sold in casing	Matt-like look to the products sold in casing
Matt-like look to the peeled products	Glossy look to the peeled products
Improved adherence for rough sausage surfaces covered with spices	Collagen look with fibrous performance
More secure meat-cling	Very high adhesion controllability
Less sensitive for grease out	More flexible to allow overstuffing
Thicker construction, consistent size stability	Better machinability due to thinner construction
High caliber stability gives high slicing yields	Easier gliding for stuffing whole-muscle products
Low shrinkage	High shrinkability
Less sensitive to milky look	Possibility to shirr more meters in a strand

Superior size stability with Fibrous ST.

ST is our standard fibrous casing; our workhorse. It's available in the world's most comprehensive range of calibers, and with its multiple features and options, it can be fine-tuned to suit the specific needs of wide-ranging applications. Our standard fibrous casing is often used for products that consumers associate with the reliable quality of established brands.

Productive solutions with high quality

Thanks to its high caliber consistency and mechanical resistance, ViskoTeepak Fibrous ST performs reliably at all processing stages. Excellent handling features ensure easy stuffing, both manual and mechanical, while meeting the strictest food safety and hygiene requirements.

Fibrous casing is also a biodegradable product based on natural, renewable raw materials. It's light but strong with excellent stretchability for improved yields. Thanks to its high permeability, you can also reach superior quality in the smoking and cooking cycles, speeding up your whole business in the process.

From standard solutions to tailor-made products

Fibrous casings can be delivered in flat or pre-tied pieces, bundles or reels, as well as shirred strands for high-speed stuffing, both dry and pre-moisturized. A

large range of colors is available to give your products a pleasant and sales-boosting appearance. Additionally, the good printability of ViskoTeepak's Fibrous casings allows for effective brand differentiation on retail store shelves.

The preferred choice

Fibrous ST is the preferred choice for in-house slicing applications where the size control/stability of the sausage is critical or when the maximum casing strength is needed.

Typical applications:

- cooked sausages
- smoked sausages
- semi-dry sausages
- dry sausages
- various types of ham products
- smoked cheese
- sliced applications

ViskoTeepak's workhorse that provides outstanding tailor-made possibilities

Features	Benefits
Excellent size control and stability	More stable production process and higher yields
Most comprehensive selection of sizes in the world	Option to tailor-make to suit your brand
High strength and clippability	Highest efficiency in sausage production
Large range of adhesion levels and color options	Wide range of applications possible
Delivered in reels, shirred strands, cut pieces	No changes in current sausage production necessary
Printable in up to 6 colors	Great appearance
Netting	Net creates a unique product



**For technical data,
refer to pages 32 to 49.**



For technical data,
refer to pages 32 to 49.



Optimized hornfit with Fibrous Max.

Max is our standard (ST) fibrous casing technology combined with pre-stretching for maximized dry flat width in addition to the ST properties. With an extra-large inner bore of the shirred strand, it allows for an increased diameter of the stuffing tube that will speed up your process, enhancing productivity and output.

Production process improvements

- Max allows a wider stuffing tube diameter that brings higher stuffing speeds, reduced stuffing pressure and machinery wear and tear. So, there's less downtime on the stuffing machines as well as lower costs in spare parts.
- With less fat formation on the sausage surface you get reduced drying times that maximize the utilization of dry room capacity.
- Increased appeal of the final sausage thanks to improved particle definition.
- Bigger cuts of meat can be stuffed through a larger horn with higher quality and an improved appearance of the final product.
- More consistent sausage diameter helps to improve slicing yields.
- Shirred casing increases efficiency for ham production.

Max with spiral shirring

ViskoTeepak's spiral shirring is a state-of-the-art technology optimized for the Max casing. The greater yield with shorter strands combined with the soakability of RTU (Ready to Use) levels already gives an edge. With S-Max you'll get more meters per strand while still using your current stuffing tube but without a compromise in

caliber stability. Spiral shirring applied to the Max casing also allows a larger stuffing tube diameter, if desired. This leads to improved stuffing output, less breakage, lower stuffing pressures, more attainable RSDs, improved slicing yield and better size control.

Benefits for all processed meat producers

The diameter of the stuffing tube plays a crucial role at various process stages for dry and semi-dry sausages, because the lower pump pressure has a direct impact on quality. In other words, by increasing the horn size, you not only accelerate the ripening process but also enhance quality. The reverse is also true: If the existing quality is satisfactory, you can use a larger horn to increase throughput. A larger stuffing tube requires more in terms of shirring and casing.



Features	Benefits
More meters per strand	Increased production output
Optimized hornfit options	Less smear, better hornfit
Superior stuffability	Increased stuffing speed and less breakage
Size consistency	Uniform drying and improved slicing yields
Tailor-made casing construction and greater load-carrying capacity for hanged sausages	Optimized rack load, less slicing waste, better yields and reduced amount of unused sausage end cuts
Great adhesion offering for optimized performance	Peeling control and improved slicing
Great shoulder formation	Increased slicing yields

White mold with Fibrous Super Protect.

Super Protect is a designed tailor-made solution for high demanding white mold salamis. Its development involved extensive customer feedback and rigorous field testing.

History

ViskoTeepak makes a wide range of fibrous casings for multiple applications. The variety of solutions is a result of close collaboration and involvement with the customer. Recently the Preserve casing was introduced, and now it's time for Super Protect to show up on the other side of that golden medal.

While Preserve is intended to keep mold growth away for as long as possible, Super Protect is designed for applications that require white-mold development.

Previously, when testing fibrous casings in the white-mold applications, cellulase enzyme attacks were causing casing disintegration. When running out of natural nutrition from the sausage, the mold starts to produce enzyme called cellulase which splits the cellulose of the casing into glucose, i.e., the nutrition for the mold. The end result of such "attacks" is typically a disintegrated casing even with holes allowing molds to grow directly on the surface of the sausage which isn't acceptable at all. A disintegrated casing is also difficult to peel because it becomes so brittle and weak that it will peel only in small pieces. With the brand-new Super Protect casing construction we were able to reinforce the structure so much that Super Protect lasts/works in many of the known white-mold applications. In any case, thorough testing is recommended especially if the customer's process is subject to anything else besides white mold growth.

The cellulase issue, for many years, caused limitations in the usability of the fibrous casings in white-mold salamis. For that reason, these applications have been the kingdom of other types of casings such as the natural, collagen and HUKKI types. The Super Protect casing offers an alternative to the traditional choices. Now, when fibrous casing can be used for white-mold products, other undisputable fibrous-related benefits will also come into play.

Typical applications

- Winter Salami
- Hungarian salami
- Rossette
- All applications with ripening times of up to 10-12 weeks, depending on the size and final quality. Longer ripening times require testing

Compared to the casings used traditionally in white-mold applications (nonedible collagen, HUKKI and natural casing), the following benefits of a fibrous casing come into play with Super Protect:

- Excellent size control and stability
- High strength and clippability
- Large range of adhesion levels

Available trade sizes

70, 77, 80, 85, 90, and 95

For other sizes, please contact your sales representative.

Features	Benefits
More meters per strand	Increased production output
Optimized hornfit options	Less smear, better hornfit
Superior stuffability	Increased stuffing speed and less breakage
Size consistency	Great shoulder formation, uniform drying and increased slicing yields
Tailor-made casing construction and greater hanging weight	Optimized rack load, less slicing waste, better yields and reduced amount of sausage end cuts
Great adhesion offering for optimized performance	Improved peeling output and slicing yields



For technical data,
refer to pages 32 to 49.



For technical data,
refer to pages 32 to 49.



Stuffing whole-muscle products with Fibrous Glide.

Glide is our standard (ST) fibrous casing technology combined with a special internal coating for an extremely smooth internal surface. This high-quality casing is recommended for stuffing whole-muscle and large-chunk products that require a premium easy-glide feature. Glide also provides excellent peeling results in frozen applications. In shirred format, it allows for easy, fast and efficient operating procedures with less time and labor.

Stuffing of whole muscle

When used for stuffing pork loins, hams, turkey hams, roast beef or other whole-muscle products, the casing is exposed to very high pressures and strains. Therefore, it needs a very high-quality construction combined with premium easy-glide properties.

Exact operations

ViskoTeepak Glide is the optimal casing solution for this segment, providing prime performance through its strength and a smooth inside surface. When using the Glide casing in the form of pre-shirred strands on double clippers, any food producer with the right setup can achieve an efficient operation that meets perfectly the length and weight requirements.

Customizable with options

Glide can be customized to fit any specific process need. It's ideal for stuffing fresh, cured or chopped meat chunks, as well as for the challenging spice-coated applications. It's available with all ViskoTeepak converting options.

High efficiency

The high productivity of the Glide casing results in direct value for the food processor. The construction and the premium EPG easy-glide component result in less breakage and reduced waste. As always, ViskoTeepak casings accommodate an extremely large horn size and a supreme hornfit in combination with the best casing-to-strand length ratio. All in all, the Glide casing will ensure a highly efficient and reliable process for any food processor.

Frozen applications

Another well-known challenging application is frozen and frozen peeled. The Glide casing has also shown great results in this segment and has provided a much-needed, long-awaited solution for many customers. In this case, the casing is delivered in the ready-to-use format.

Features	Benefits
Strong and easy-glide construction	Less breakage in stuffing and better output
Available in a wide range of sizes	Regardless of the application, right stuffing size will be found
Various converting options available	Optimized converting brings the best possible efficiency and results
Available with special treatments for peeling frozen products	Better peeling performance/peel
Colored casings	Improved food safety; better casing leftover detection after peeling

Hard stuffing and high-speed peeling with Fibrous Xtreme.

Xtreme is a patented multilayer fibrous casing with an adhesion promoter on the inside layer and a moisture retention aid on the outside layer making hard stuffing and peeling possible. It's designed to tolerate extreme conditions in dry sausage production with in-house peeling and slicing.

Xtreme conditions

The ViskoTeepak's truly unique casing for the most extreme conditions and manufacturing processes, Xtreme makes it possible to push the limits for production and with perfectly modified adhesion and release properties, to reach the highest yields at all steps of the sausage-making process. The strength of the casing not only makes it possible to stuff at the highest speeds; it also allows for perfect caliber stability and maximized sausage length.

Controlling both meat-cling and peel

What you end up with is a product that has all the advantages of good meat adhesion. However, with adhesion control modified and tailor-made to fit your process, it's

still possible to reach perfect peeling conditions. We can offer two standard adhesion levels (XM HPU and XM HPM) with the ability to tailor-make according to your specific process requirements.

Essentially, this casing allows for controlled meat-cling levels at the initial steps of the sausage production process. However, when also adding a fixed-rate peel injection, you'll achieve improved peeling and moisture retention by the time the sausages leave the rack.

Xtreme is available only as clear casing and the caliber selection is limited. Please consult with ViskoTeepak's sales or technical personnel.

Features	Benefits
Excellent size control and stability	More stable production and greater yield
High strength and clippability	Highest efficiency in sausage production
Special designed/developed adhesion levels	Optimizing the drying process for dry sausages without hardening
Adhesion promoter on inside layer and moisture retention aid on outside layer	Great stuffing and peeling performance



Xtreme makes it possible to push the limits for production



For technical data,
refer to pages 32 to 49.



For technical data,
refer to pages 32 to 49.



A light but strong casing with Fibrous XL/LCXL.

XL is our fibrous casing technology combined with reliable, lightweight but exceptionally strong construction. It's a good alternative when the superior properties of the ST casing aren't needed. XL allows for higher yields in sausage processing, which in turn translates into better overall profitability for your manufacturing operations. Improved yields are naturally the main goal of every big meat producer today, and Fibrous XL is all about making it happen.

Stretching the limits, boosting the profits

XL is a thinner casing due to the regeneration of cellulose viscose on a long-fiber paper web. Thanks to its excellent stretchability, XL is flexible but still utterly reliable and easy to handle. This strong casing allows for safer stuffing of cold salami emulsions and there is also less reject due to the casing's high mechanical resistance. Good permeability and wrinkle resistance make Fibrous XL the perfect choice for semi-dry smoked/cooked

sausages, portion sausages and a truckload of other high-quality end products. At the end of the day, higher yields mean higher output and greater profitability.

LCXL, the large-code XL

LCXL is our XL fibrous casing technology that targets larger diameter products including hams, luncheon meats and more. It's offered for applications that involve sausage racking rather than hanging.

Comparison table

Semi-dry smoked sausage produced	Collagen casing required	Fibrous XL/LCXL casing required
500 tons	276,500 m	245,000 m
1,000 tons	553,000 m	490,000 m
2,000 tons	1,106,000 m	980,000 m
5,000 tons	2,765,000 m	2,450,000 m

XL/LCXL = 12.8% savings in casing consumption.

Features	Benefits
High strength and clippability	Highest efficiency in sausage production
Large range of adhesion levels	No fat pockets or casing separation
Delivered in reels, shirred strands, cut pieces	Optimized customization secures best results
Printable in up to 6 colors	Great appearance
Excellent permeability	Excellent drying and smoking performance
Enlarged caliber range	More opportunity to use the XL/LCXL product features
LCXL lighter construction	Possibility to shirr more meters and improve output

Get a shiny appearance with Fibrous Brilliant.

Brilliant is our XL fibrous casing technology that features reliable, lightweight construction combined with a specially developed coating to create a glossy appearance that will catch the customer's attention.

Seeking customer attention?

ViskoTeepak Brilliant combines the excellent technical characteristics of fibrous casing with a high gloss look. The addition of this special feature attracts the attention of consumers to products presented in casings thanks to the glossy, but natural look. Any dry or semi-dry sausage supplied as a portioned product will benefit from this innovation.

Advanced coating technology

The high-gloss appearance of ViskoTeepak Brilliant casings has been achieved through a developed coating technology, which results in a casing that facilitates the combination of visual characteristics with the excellent machinability, clippability, size control and strength that are typical of ViskoTeepak's Fibrous casings.



Brilliant enhances the presentation of portioned sausages

Features	Benefits
Attractive glossy look	Enhanced presentation of portioned sausage
High strength and clippability	Highest efficiency in sausage production
Large range of adhesion levels	Wide range of applications possible
Delivered in reels, shirred strands, cut pieces	No changes in current sausage production necessary
Printable in up to 6 colors	Great appearance
Netting	The combination of Brilliant and net results in a unique product



**For technical data,
refer to pages 32 to 49.**



**For technical data,
refer to pages 32 to 49.**



More visible sausage structure with Fibrous FLX.

FLX is the thinnest fibrous casing ever produced with a glossy appearance. It's thinner for more meters per strand or reel to allow faster soaking with greater transparency for better product-structure visibility. This thin casing creates significant potential for time and cost savings in the production process.

Highest transparency

The improved transparency gives a great appearance as it reveals more closely the sausage structure. This is an important feature for many sausage applications and manufacturers.

More meters per shirred strand

All ViskoTeepak casings are tailor-made to fit the customer requirements and one of the benefits of FLX is the significant improvement in shirred meters per strand. Our tests have shown that we can shirr up to 15–20% more meters per strand versus other fibrous casing types. This doesn't only provide cost reduction opportunities in converting operations but also greater efficiency for the end customer. FLX is delivered in 1,000 m reels instead of 600/800 m to reduce costs for logistical operations. Together with more meters per shirred strands and/or box/pallet this will provide significant storage and transport cost-savings opportunities for all parties involved.

Thin and strong

Despite its thin construction, FLX is strong enough to meet the current stuffing-efficiency requirements. When developing our FLX, we ran stuffing-performance tests

with the most recently designed and fastest clipping machine on the market. With speeds of up to 120 sausages per minute (250 g portions, caliber 45), FLX easily handled the tough testing conditions.

Improved stuffing output

FLX is designed to be used mainly in all kinds of dry, semi-dry, cooked and smoked chunk sausages. FLX isn't the preferred choice for sliced applications and we recommend very careful testing as sausage length and weight do have an impact on size stability and clip holding its place (clip slippage).

Soaking and overstuffing

Due to its construction and design, FLX soaks very fast and easy. With its excellent overstuffing capabilities, FLX delivers savings in casing usage. It also ensures nice, round shoulders on the sausages and requires smaller-size clips due to its thin construction, resulting in long-term clip-related cost savings.

Features	Benefits
High transparency	Great appearance, improved sausage structure visibility
Thinnest fibrous casing in the world	Significant cost-savings potential in converting and transportation
More meters per strand	Cost savings, higher stuffing efficiency, better profitability
High strength	Strong enough to meet stuffing-efficiency requirements
Enhanced soakability	Labor savings, improved stuffing performance
Soakable in water rather than brine	Soaking in brine contributes to machinery wear due to corrosion, when using, e.g., nonedible collagen casings

Outperform collagen with Fibrous CRF.

CRF (Collagen Replacement Fibrous) is the thinnest fibrous casing ever produced with a matte appearance designed to outperform and replace collagen casings by offering the proven advantages of the fibrous casing, such as strength, caliber consistency, excellent shrinkability and stretchability, high-speed stuffing and smoking performance. It's also thinner for more meters per strand to allow faster soaking with greater transparency for better product-structure visibility. CRF is perfect for dry and semi-dry, smoked/cooked and smoked/cured applications.

Flexible production

With CRF, customers can count on faster recipe changes and shorter soaking times. They can take advantage of a product that evolves with new applications and developments in the market. CRF also brings exceptional performance in comparison with many traditional fibrous products. We can significantly improve the shirred meters per stand. This opens the opportunity for partners to achieve cost reductions and also benefits the customer through greater efficiency.

Consistent need for speed

CRF meets all of the today's high-speed stuffing requirements. It's been developed to offer good caliber consistency and tear resistance, as demonstrated through comprehensive testing. It's primarily designed and intended for sausages sold as chubs but not for slicing. Compared to collagen, the customer will also be able to stuff colder salami emulsions without compromising quality and, because fibrous isn't an animal-based product, it ensures consistent color quality and high-quality printing.

Fast soaking and reduced machinery wear and tear

CRF is soaked in pure water but not salty brine like collagen which eliminated corrosion resulting in lower machinery wear. Due to its slick construction, it also soaks very fast and provides that matte and semi-transparent traditional collagen look.

Overstuffing and lower casing consumption

CRF will provide you with excellent overstuffing properties in line with and even outperforming our famous success, FLX. These properties will allow for a nice look and round shoulders and ensure that you need less casing to produce an equal sausage weight as compared to collagen. In essence with CRF you'll attain higher production output combined with efficient casing usage and its thin construction that requires smaller-size clips resulting in long-term clip-related cost savings.

Features	Benefits
High transparency	Pleasing appearance, improved sausage structure visibility
Thinnest fibrous casing in the world	Significant cost-savings potential in converting and transportation
More meters per strand	Cost savings, higher stuffing efficiency, better profitability
High strength	Strong enough to meet stuffing-efficiency requirements
Enhanced soakability	Labor savings, improved stuffing performance
Soakable in water rather than brine	Soaking in brine contributes to machinery wear due to corrosion, when using, e.g., nonedible collagen casings
Matte outlook	Fibrous benefits with collagen outlook



**For technical data,
refer to pages 32 to 49.**



For technical data,
refer to pages 32 to 49.



Inhibited fungal growth with Fibrous Preserve.

Preserve is any fibrous casing supplied with an antimycotic coating to inhibit and reduce fungal growth. It works in the toughest production conditions, where fungal growth is a problem. Preserve's active component, natamycin, has been used in the food industry for decades to combat fungal outgrowth in meats and dairy products and it's approved by the safety authorities.

The concept

Preserve includes an anti-fungal coating developed to work in the toughest production conditions where fungal growth is a real issue. The coating protects the sausage from mold infestation, a common problem at dry-sausage production facilities. Even though the large variety of existing molds makes it impossible to guarantee that all mold growth will be prevented, all tests have shown that Preserve exhibits less mold growth than all similar untreated casings tested.

Approved by food-safety authorities

The active component applied to the casing surface is natamycin, also known as pimaricin and sometimes sold as natacyn. It's a naturally occurring antifungal agent produced during fermentation by the bacterium *Streptomyces natalensis*, which is commonly found in soil.

Natamycin has been used for decades in the food industry as a means to combat fungal outgrowth in meat and dairy products and is approved by the food-safety authorities.

Possibilities to tailor-make a solution

Preserve can be combined with all our adhesion levels and color alternatives as well as with all types of Visko-Teepak's Fibrous casings. This means that we can play with properties and tailor-make the perfect solution for each customer. The degree of anti-fungal resistance can also be adjusted. As a standard, we offer two options: Standard (Preserve 3) to meet the basic requirements; and Enhanced (Preserve 1) for maximum protection in the most demanding applications. This option provides the highest possible protection under the current rules and regulations.

Applicable to all basic fibrous casings

Features	Benefits
Antimycotic properties	Inhibited fungal growth
Available in a wide range of adhesion levels	Tailor-made to exactly fit the application
Combinable with all color alternatives	Branding and food safety
Applicable to all basic fibrous casings	Wide range of casing alternatives
Two levels of anti-fungal protection	Basic and high protection, depending on application
Compliant with all EU and US food regulations	Food safety

Color options.

Standard colors	ST/XL/LCXL/BRILLIANT		FLX/CRF	Notes
	Hanko	Lommel	Lommel	
 Clear 00	★	★	★	
 Color 04 (Light Blue)	★	★	★	
 Color 05 (Blue)	★			
 B 07	★	★	★	
 Nat 08		★	★	
 Light Mahogany 10	★	★	★	
 SB 12	★			
 Amber 13	★	★	★	
 Mahogany 17	★			Hanko, available in sizes up to 75
 Red 18	★	★	★	Hanko, available in sizes up to 75
 Cherry Red 20		★	★	
 Sienna Color 23		★	★	
 Mahogany 27		★	★	
 Nat 30	★	★	★	
 Nat 34	★	★	★	
 Nat 35	★	★	★	
 Orange Brown 36	★	★	★	
 Meranti 37		★	★	
 Nat 40	★	★	★	
 Black 41	★	★	★	
 Nat 55	★	★	★	
 Onion 56	★	★	★	
 Dark Cherry Red 79	★			Hanko, available in sizes up to 75
 Light Orange 82	★			
 Amber 83	★	★	★	

Standard colors	ST/XL/LCXL/BRILLIANT		FLX/CRF	Notes
	Hanko	Lommel	Lommel	
● Brown Mahogany 84	★			Hanko, available in sizes up to 75
● Brown 85	★			
● Brown 86	★			Hanko, available in sizes up to 75
● Hazelnut 88	★			
● Brown 89	★			
● Nat 90	★			
● Brown Mahogany 91	★			Hanko, available in sizes up to 75
● Dark brown 92	★	★	★	
● Brown 93		★	★	
● Dark Mahogany 95	★			
● Brown 96	★			
● Red Mahogany 97	★			Hanko, available in sizes up to 75
● Red Brown 98	★			
● Red 99	★			

Xtreme casing is offered only in Clear 00. Glide, Preserve and Super Protect are available upon request. Other colors are available upon request. Please look at our color books for most accurate color sample.



Fibrous size.

Available sizes and RSD, when fully soaked, in mm.

Trade size	ST		Max		XL/LCXL		Brilliant	FLX & CRF
	DVC RSD	SVC RSD	DVC RSD	SVC RSD	DVC RSD	SVC RSD	SVC RSD	DVC RSD
28		28						
32	32				32			
33		33				33	33	
34	34	34			34	34		
35	35	37		38		37	37	
36	37				37			39 / 39
37	38	38		40	38			
38		39				39		
39	40	40			40	40		42 / 42
40	42	42			42	42	42	43 / 43
41	43	43		44	43	43	43	44
42	44	44	46	46	44	44	44	
43	45	45			45	45	45	46 / 46
44	46	46		47	46	46		48
45	48	48		50	48	48	48	50 / 50
46	50	50	51	51	50	50		
47	51	51	52	52	51	51	51	53 / 53
47.5	52	52	52.5					
47.8	52.5	52.5	53	53				
48	53	53	54	54	53	53	53	54 / 54
49	53.5	53.5	54.5	54.5				
50	54	54	56	56	54	54	54	56 / 56
52		55						
53	56	56	58	58	56	56	56	58 / 58
54	57				57			
55	58	58	61		58		58	61 / 61
56	59	59		61	59	59	59	
57	61	61	63	63	61	61		63 / 63
58	63	63	65	65	63	63	63	
60	65	65		67	65	65	65	67 / 67
62		68		69		69	69	
63	69		71		69			71 / 71
65	70	70	72	72	70	70	70	
68	73	73	74	74	73	73	73	74
69		74		75				
70	76	76	78	78	76	76	76	78
71	78		79		78			79
73	81	81						
75	82	82	83	83	82	82	82	83 / 83
77	84	84	85	85			84	
79	86	86		87	86			
80	88	88	90	90	88	88	88	

Available sizes and RSD, when fully soaked, in mm.

Trade size	ST		Max		XL/LCXL		Briliant	FLX & CRF
	DVC RSD	SVC RSD	DVC RSD	SVC RSD	DVC RSD	SVC RSD	SVC RSD	DVC RSD
82	90	90	91					
83	91	91		92	91			
84		93	94	94				
85	94	94	95	95	94	94	94	
88	97	97	98	98	97			
89	99				99			
90	101	101	102	102	101	101	101	
91	102				102			
92	103	103	104	104	103	102		
95	105	105	106	106				
96	106				106			
100	109	109	110	110	109	109	109	
102	111	111	112	112	111			
104	113	113						
105	113		115		113			
106	116	116	117		116			
107		117						
108		118						
109	119				119			
110		122						
111	123		124		123			
112	124	124		125				
113	125				125			
114	126							
115	127	127	128	128				
118	131		132		131			
120	133	133	134	134				
127		136		137				
130	139	139	140	140	139			
133	143		144		143			
135	144	144		145				
140		147		148				
145	150	150						
150	156	156	157	157	156			
153		158	159	159				
160	167	167						
165	172	172	173	173	172			
169	176	176	177	177				
175		180						
185	190	190						
195	203	203						
210		216						
230	236							
245		252						

Preserve, Glide, Xtreme sizes are available upon request. Super Protect is available in sizes 70, 77, 80, 85, 90 & 95. Other sizes upon request.

Available US sizes, RSD and circumferences

Caliber		ST			MAX			XL/LCXL			FLX/CRF		
US size	Trade size	RSD mm	RSD in	Circ.	RSD mm	RSD in	Circ.	RSD mm	RSD in	Circ.	RSD mm	RSD in	Circ.
V 1/6	28	28	1.10	3 15/32									
V 1SV	32	32	1.26	3 31/32				32	1.26	3 31/32			
V 1/4	33	33	1.30	4 3/32	35	1.38	4 11/32	33	1.30	4 3/32			
V 1SU	34	34	1.34	4 7/32				34	1.34	4 7/32			
V 1/3	35	35	1.38	4 11/32	38	1.50	4 23/32	35	1.38	4 11/32			
V 1ST	36	37	1.46	4 19/32				37	1.46	4 19/32	39 / 39	1.54	4 27/32
V 1/3L	37	38	1.50	4 23/32	40	1.57	4 30/32	38	1.50	4 23/32			
V 1/2SP	38	39	1.54	4 27/32				39	1.54	4 27/32			
V 1SP	39	40	1.57	4 30/32				40	1.57	4 30/32	42 / 42	1.65	5 6/32
V 1/2P	40	42	1.65	5 6/32	43	1.69	5 10/32	42	1.65	5 6/32	43 / 43	1.69	5 10/32
V 1/2PL	41	43	1.69	5 10/32	44	1.73	5 14/32	43	1.69	5 10/32	44	1.73	5 14/32
V 1SL	42	44	1.73	5 14/32	46	1.81	5 22/32	44	1.73	5 14/32			
V 1SD	43	45	1.77	5 18/32				45	1.77	5 18/32	46 / 46	1.81	5 22/32
V 1K	44	46	1.81	5 22/32	47	1.85	5 26/32	46	1.81	5 22/32	48	1.89	5 30/32
V 1S	45	48	1.89	5 30/32	50	1.97	6 6/32	48	1.89	5 30/32	50 / 50	1.97	6 6/32
V 1SM	46	50	1.97	6 6/32	51	2.01	6 10/32	50	1.97	6 6/32			
V 1	47	51	2.01	6 10/32	52	2.03	6 12/32	51	2.01	6 10/32	53 / 53	2.09	6 18/32
V 1LM	47.5	52	2.05	6 14/32	52.5	2.07	6 16/32						
V 1L	47.8	52.5	2.07	6 16/32	53	2.09	6 18/32						
V 1W	48	53	2.09	6 18/32	54	2.13	6 22/32	53	2.09	6 18/32	54 / 54	2.13	6 22/32
V 1WM	49	53.5	2.11	6 20/32	54.5	2.05	6 14/32						
V 1M	50	54	2.13	6 22/32	56	2.20	6 29/32	54	2.13	6 22/32	56 / 56	2.20	6 29/32
V 1 1/2	52	55	2.17	6 26/32									
V 1 1/2K	53	56	2.20	6 29/32	58	2.28	7 5/32	56	2.20	6 29/32	58 / 58	2.28	7 5/32
V 1 1/2S	54	57	2.24	7 1/32									
V 2G	55	58	2.28	7 5/32	61	2.40	7 17/32	58	2.28	7 5/32	61 / 61	2.40	7 17/32
V 2M	56	59	2.32	7 9/32	61	2.40	7 17/32	59	2.32	7 9/32			
V 2	57	61	2.40	7 17/32	63	2.48	7 25/32	61	2.40	7 17/32	63 / 63	2.48	7 25/32
V 2SL	58	63	2.48	7 25/32	65	2.56	8 1/32	63	2.48	7 25/32			
V2L	60	65	2.56	8 1/32	67	2.64	8 9/32	65	2.56	8 1/32	67 / 67	2.64	8 9/32
V 2S	62	62	2.68	8 14/32	69	2.72	8 17/32	62	2.68	8 14/32	69	2.72	8 17/32
V 2 1/2K	63	69	2.72	8 17/32	71	2.80	8 25/32	69	2.72	8 17/32	71 / 71	2.80	8 25/32
V 2 1/2S	65	70	2.76	8 21/32	72	2.83	8 28/32	70	2.76	8 21/32			
V 2 1/2	68	73	2.87	9	74	2.91	9 4/32	73	2.87	9	74	2.91	9 4/32
V 2 1/2R	69	74	2.91	9 4/32	75	2.95	9 8/32						
V 3S	70	76	2.99	9 12/32	78	3.07	9 20/32	76	2.99	9 3/8	78	3.07	9 20/32
V 3 1/2	71	78	3.07	9 20/32	79	3.11	9 24/32	78	3.07	9 5/8	79	3.11	9 24/32
V 3 1/2L	73	81	3.19	10 1/32									
V 4S	75	82	3.23	10 5/32	83	3.27	10 9/32	82	3.23	10 5/32	83 / 83	3.27	10 9/32
V 4	77	84	3.31	10 13/32	85	3.35	10 17/32						
V 4L	79	86	3.39	10 21/32	87	3.46	10 28/32						
V 5	80	88	3.46	10 28/32	90	3.54	11 4/32	88	3.46	10 7/8	90	3.54	11 4/32
V 5K	82	90	3.54	11 4/32	91	3.58	11 8/32						
V 5 L	83	91	3.58	11 8/32	92	3.62	11 12/32						

Available US sizes, RSD and circumferences

Caliber		ST			MAX			XL/LCXL			FLX/CRF		
US size	Trade size	RSD mm	RSD in	Circ.	RSD mm	RSD in	Circ.	RSD mm	RSD in	Circ.	RSD mm	RSD in	Circ.
V 5 1/4	84	93	3.66	11 16/32	94	3.70	11 20/32						
V 5 1/2	85	94	3.70	11 20/32	95	3.74	11 24/32	94	3.70	11 20/32			
V 5N	88	97	3.82	12	98	3.86	12 4/32	97	3.82	12			
V 6G	89	99	3.90	12 8/32				99	3.90	12 8/32			
V 6M	90	101	3.98	12 16/32	102	4.02	12 20/32	101	3.98	12 16/32			
V 6K	91	102	4.02	12 20/32				102	4.02	12 20/32			
V 6N	92	103	4.06	12 24/32	104	4.09	12 27/32	103	4.06	12 24/32			
V 6S	95	105	4.13	12 31/32	106	4.17	13 3/32						
V 6	96	106	4.17	13 3/32				106	4.17	13 3/32			
V 6 1/2	100	109	4.29	13 15/32	110	4.33	13 19/32	109	4.29	13 15/32			
V 6 1/2M	102	111	4.37	13 23/32	112	4.41	13 27/32	111	4.37	13 23/32			
V 7	104	114	4.49	14 3/32									
V 7 T	105	115	4.53	14 7/32	116	4.57	14 11/32						
V 7 L	106	116	4.57	14 11/32	117	4.61	14 15/32	116	4.57	14 11/32			
V 7 1/2	107	117	4.61	14 15/32									
V 7 1/2K	108	118	4.65	14 19/32									
V 7 1/2L	109	119	4.69	14 23/32									
V 8S	110	122	4.80	15 2/32									
V 8T	111	123	4.84	15 6/32	124	4.88	15 10/32	123	4.84	15 6/32			
V 8	112	124	4.88	15 10/32	125	4.92	15 14/32						
V 8 1/2	113	125	4.92	15 14/32				125	4.92	15 14/32			
V 8 1/2M	114	125	4.92	15 14/32									
V 8L	115	127	5.00	15 22/32	128	5.04	15 26/32						
V 9M	118	131	5.16	16 6/32	132	5.20	16 10/32	131	5.16	16 6/32			
V 9	120	133	5.24	16 15/32	134	5.28	16 19/32						
V 9L	127	136	5.35	16 26/32	137	5.39	16 30/32						
V 9 1/2	130	139	5.47	17 6/32	140	5.51	17 10/32	139	5.47	17 6/32			
V 9 1/2K	133	143	5.63	17 22/32	144	5.67	17 26/32	143	5.63	17 22/32			
V 10	135	144	5.67	17 26/32	145	5.71	17 30/32						
V 10L	140	147	5.79	18 6/32				147	5.79	18 6/32			
V 10 1/2	145	150	5.91	18 18/32									
V 11	150	156	6.14	19 9/32	157	6.14	19 9/32	157	6.14	19 9/32			
V 11L	153	158	6.22	19 17/32	159	6.26	19 21/32						
V 11 1/2	160	167	6.57	20 20/32									
V 12	165	172	6.77	21 8/32	173	6.81	21 12/32	172	6.77	21 8/32			
V 12 1/2	169	176	6.93	21 24/32	177	6.97	21 28/32						
V 12L	175	180	7.09	22 8/32									
V 13	185	190	7.48	23 16/32									
V 14	195	203	7.99	25 3/32									
V 18	210	216	8.50	26 22/32									
V 20	230	236	9.29	29 5/32									
V 24	245	252	9.92	31 5/32									

Preserve. Glide. Xtreme sizes are available upon request. Super Protect is available in sizes 70, 77, 80, 85, 90 & 95. Other sizes upon request.

Total adhesion control.

Adhesion control is a key element in a tailor-made fibrous casing. It's also one of the keys elements when taking the full control of the sausage-making process and in peeling operations. ViskoTeepak masters both injection and bubble techniques and can offer both increased release and adhesion solutions. With multiple meat-cling and easy-peel levels combined with numerous converting services and techniques, we have a solution ready to fit any customer's process.

Regular

Regular is the standard for fibrous and has no interior impregnation in the casing. This is typically used for applications where special treatments such as meat-cling and easy-peel aren't required.



els ranging from MeatCling Ultra (MCU) and High (MCH) to Low (MCL) and Extra (MCE). MeatCling is available in all standard shapes and sizes as well as in a range of attractive colors. The casings can also be supplied with up to six-color prints.



MeatCling

MeatCling is used for the production of cooked, smoked and dried sausages, where controlled meat adhesion is required to ensure that the casing adheres to the sausage surface in a predictable and controlled manner during the ripening and curing cycles.

The MeatCling fibrous casing offers excellent adhesion, permeability and peelability. It's particularly suitable for dry and semi-dry products such as salami-type sausages. You can choose a meat-cling level that suits your production requirements. For example, the lower level is used for dipped and coated salamis where casing is peeled off before further processing. A stronger meat-cling solution is needed for dry sausages with longer ripening times. MeatCling guarantees the consistency of adhesion along the entire surface of the sausage. Since the casing faithfully adheres to the sausage, high-end-product quality and an attractive appearance are also ensured.

A high meat-cling casing needs to be peeled off properly, therefore, ViskoTeepak MeatCling also offers the best peelability, which ensures easy handling for the meat-product manufacturers, retailers and consumers alike. ViskoTeepak can offer a range of meat-cling lev-

EasyPeel

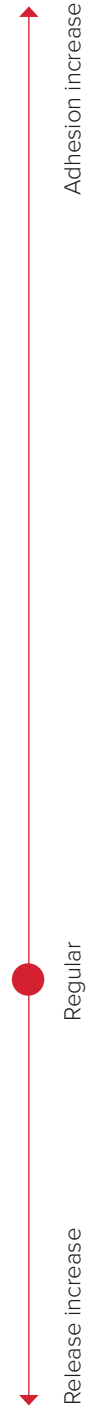
EasyPeel is a special treatment on the inner surface that helps the peeling process. It's ideal for cooked and smoked meat products, hams and emulsion-type sausages where easy peeling properties are needed. EasyPeel is also very useful if the product is tempered and the casing is peeled off prior to slicing.

EasyPeel casings offer excellent stretchability and permeability for high and predictable end-product quality. No matter whether you're processing dry hams, smoked meats, cured meats and similar products, you can always rely on EasyPeel's first-class peeling and handling properties. By finding the optimal balance between peelability and adhesion, it's possible to speed up the sausage production process and improve the efficiency of the operations. Less manual labor is required for peeling, and if the casing is peeled off by the end user, the easy and effortless release of casing contributes to consumer preference and satisfaction.

EasyPeel is available in all standard shapes and sizes as well as in a range of attractive colors. It can be tailored from low to extra-high EasyPeel (EPZip>EPL>EPH>EPE>EP-IT). It can be delivered shirred, clipped or tied to length, as reel-stock and supplied with up to six-color prints.

Fibrous adhesion table

		Typical application	
	MCE	Extra high meat adhesion	Casing-on slicing applications and long-maturing dry sausages
	MCH HP-MCH	High meat adhesion (standard)	Dry/semi-dry sausages that require a strong meat adhesion
	MCL HP-MCL	Low meat adhesion	Dry/semi-dry sausages where a reduced meat adhesion is preferred, as well as applications with a high gel-formation risks
	MCU HP-MCU	Ultra low meat adhesion	Mainly for dry/semidry slicing applications
	REG	Regular	Standard casing for application where no special coating is required
	EP-Zip EPL	Low peelability	Reduced EP for slicing applications or dry applications where EP is required
	EPH	High peelability (standard)	Standard EP casing for in-house peel applications
	EPE	Extra high peelability	Special applications like cured, processed whole-muscle products (with mold)
	EP-IT	Superior peelability (RTU)	Special EP casing for extremely demanding applications like products peeled frozen
	EP Extra		
	EP High		
	EP Low		
	No impregnation		
	Xtreme		
	MC Ultra		
	MC Low		
	MC High		
	MC Extra		



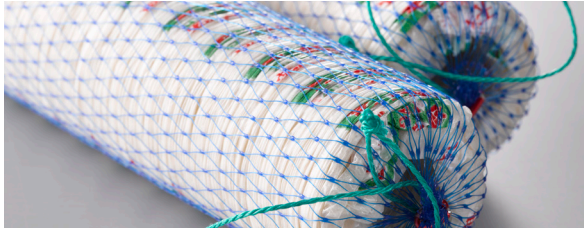
Tailor-made via converting.

With its most comprehensive selection of casings and fibrous solutions in the world complemented with numerous converting services and techniques in a wide variety of possible combinations, ViskoTeepak feels comfortable in saying that we have something to offer to each and every customer. Our solutions are simply some of the most productive solutions around. We stand by our word, so, give us the chance to develop and test our tailor-made solutions for your operations. We'll prove our words in numbers and facts.

Options	ST	XL & LCXL	Max	Brilliant	FLX & CRF	Xtreme	Preserve	Super Protect	Glide
Calibers	28–245	32–165	35–169*	33–100	36–75	48–90	32–100	57–105	75–165
Shirring	★	★	★	★	★	★	★	★	★
EasyPeel	★	★	★	★	★	★	★	★	★
RTU	★	★	★	★	★	★	★	★	★
Printing	★	★	★	★	★	★	★	★	★
Netting	★	★	★	★	★	★	★	★	★
Smoke	★		★						
Cutting	★	★	★	★	★	★	★	★	★
Rewinding	★	★	★	★	★	★	★	★	★
Clipping	★ (<195)	★(<90)	★(<90)	★(<90)	★	★	★	★	★(<195)
Pre-sticking	★	★	★	★	★	★	★	★	★
Drilling	**	★	★	★	★	★	★	**	**
Sewing	★			★				★	
Tying	★(<195)	★(<90)	★(<90)	★(<90)	★	★	★	★	★(<195)
Bundling	★	★	★	★	★	★	★	★	★

* Other sizes available upon request; ** in combination with tying or clipping only

Converting.

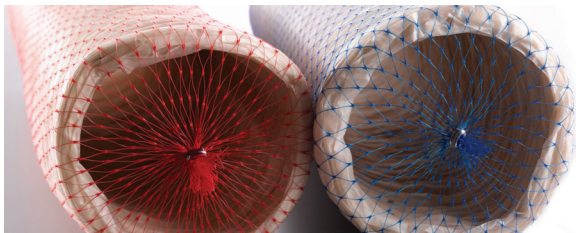


Shirring

ViskoTeepak shirred fibrous casings feature a highly consistent shirring pattern enabling failure-free stuffing. Thanks to the patented ViskoTeepak shirring technology, high casing density and a large inner bore are obtained without affecting soaking and stuffing. Additional benefits are the large inner bore and extended length per strand, which result in a fluent, highly efficient workflow.

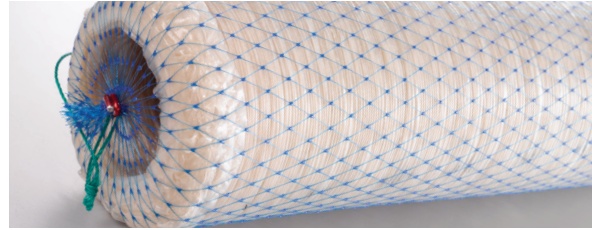
We can shirr RTU up to caliber 245 with up to 60 meters per strand.

A shirred casing is always in a premium condition and less prone to smearing, helping to maintain an attractive end product appearance. Shirred casings speed up your production by simplifying planning and making the casing handling operations fast and easy. In short, time and cost savings come standard with a strand of shirred casings.



Spiral Shirring

Spiral shirring is a state-of-the-art technology taking shirring up to the next level. By using a special revolutionizing technique, we compress as much casing as possible achieving more meters per strand compared to standard shirring. Spiral shirring is therefore all about making your operations faster and easier at higher yields. More meters per strand combined with the Max casing and a larger stuffing tube is an example of one of the most productive casing solutions in the market today.



Ready-to-Use (RTU)

The Ready-to-Use is an option designed for high-speed stuffing without soaking. Casing is pre-moisturized and shirred so the operator can use the strands directly from the box, which reduces production time and eliminates the risk of contamination from the soaking water. RTU casing is shirred with the latest technology, which gives the customer multiple benefits, including less product smearing, better handling and less space taken up in warehouses for the casing as well as no leftovers from production. If RTU casing is used in in-house peeled slicing or hanging applications, a proper scale up program is recommended to secure size stability.



Printing

ViskoTeepak can offer double-side, six-color printing to meet all your requirements. With top of the line printing, it's possible to create that outstanding visual appearance and eye-catcher to promote any fibrous product, allowing you to market your product so that it stands out among the competition. With printing, you can tailor your products to make them unique and impressive as well as to display the nutrition and ingredient sections.



Rewinding and bundling

We can offer rewinding and bundling in various lengths and for different reel sizes. This can be done in combination with printing, pre-sticking, coating or multiple combinations. Bundling is the same as rewinding, but there is no core.

Rewinding table			
Length	Including give away	Core types	Material
500 m	503 m	78 mm	Cardboard/PVC
600 m	603 m	152 mm	Cardboard/PVC
700 m	703 m	192 mm	Cardboard/PVC
800 m	803 m	250 mm	Cardboard
1.000 m	1.003 m	300 mm	Cardboard



Tying

For manual operations, we can supply casings as pre-tied pieces. We have special capability for long lengths and large codes.



Drilling

Drilling is an option for pre-tied and clipped casing pieces. By puncturing small holes at the tied end of the casing, it's possible to prevent air and moisture from being trapped at the top of the final product. This guarantees a high-quality end result.



Cutting

Cutting is possible with or without printing, pre-sticking or a combination. In most sizes, we can slit casing tubing open along one side or two sides and cut it to sheets up to 140 centimeters long.

Cutting options

Normally all sizes cut to lengths up to 140 cm.

All sizes slit open on one side and cut to lengths up to 140 cm.



Smoke

ViskoTeepak Smoke is a RTU fibrous casing with a smoke color and favor. It features a liquid smoke coating that eliminates the need to use smoke generators or liquid smoke. The coating imparts a natural smoke aroma and color, giving your meat or poultry product a smoky favor and appearance. By reducing or eliminating the time required to smoke your food products, you can improve yield, productivity and profitability.

Consistent flavor diffusion and even coloration are additional benefit of fibrous casings with built-in smoke. There is no fluctuation in smoke aroma or intensity, and unlike a traditional smoking process, no rack marks are left on the surface of the product. This results in an end product that isn't only delicious in terms of taste but also exquisite in appearance. Liquid smoke also has the benefit of reducing environmental loads with zero smoke gas emissions into the atmosphere.

The smoke concentration can also be adjusted to fit applications that require only a light color and smoke aroma to heavier applications that require an intensive smoke aroma and color.



Netting

The Net family features the perfect combination of fibrous casings and a net to give you an appealing "specialty product" appearance, high mechanical strength and stable caliber. The level of adhesion and peelability can be precisely modified to meet your requirements.

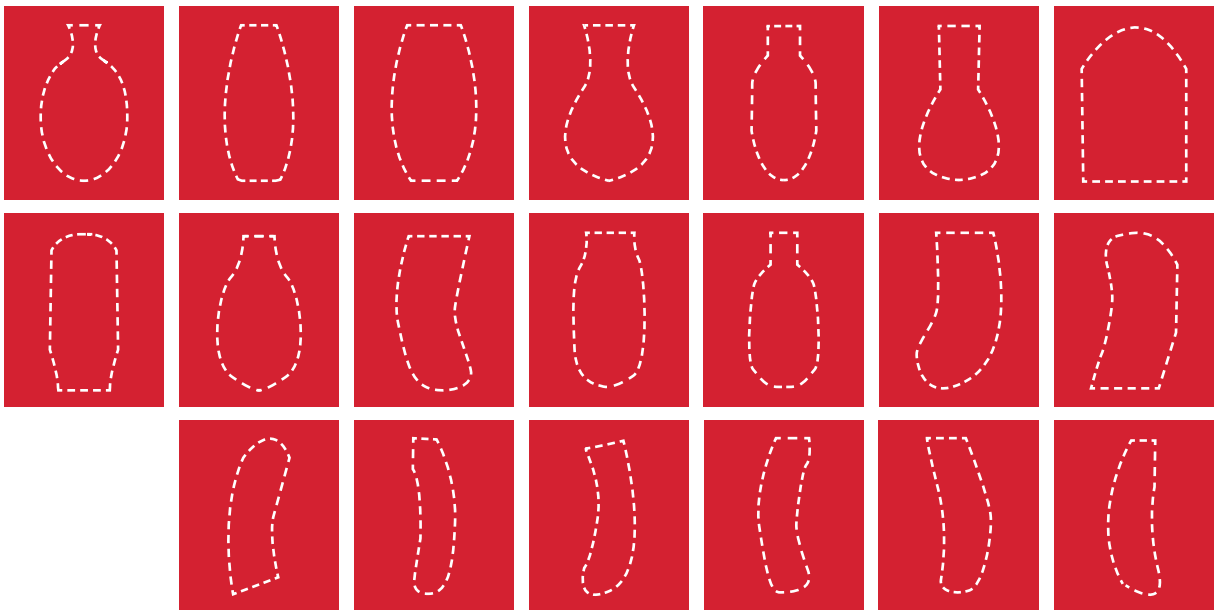
The eye-catching net shapes give your sausages the pleasing look and feel of a hand-made product. To the discerning consumer, this traditional look implies premium quality and delicious flavor. We have a wide range of non-elastic or semi-elastic nets with cell shapes varying from popular honeycomb to geometric patterns such as rectangular or square shapes, some of which are registered. The net forms an integral part of the casing and adds value to your product through its unique visual appearance. The casing is easy to handle and stuff as long as you follow the guide in the "Netting" section.



Sewing

With the eye-appealing shapes of our sewn fibrous casings, it's easy to give your brand the appearance of a specialty product that it deserves. Our sewn bag-type casings have a "handmade" look for an appetizing touch and feel. To consumers, this traditional look implies premium quality and the atmosphere of a classic small-town meat market. Typical applications for sewn fibrous casings include salami, pepperoni, cooked and semi-dry sausages as well as spreadable products.

Sewing options:



Shirring, stuffing & hornfits.

Size	US code	Stuffing diameter	Strand length	Hornfit	Strands/carton	Meters/carton
28	V 1/6	28	17	17	50	850
32	V 1 SV	32	20	20	50	1000
33	V 1/4	33	20	20	50	1000
34	V 1 SU	34	20	20	50	1000
35	V 1/3	37	20	22	50	1000
36	V 1 ST	36	20	20	50	1000
37	V 1/3 L	38	20	24	50	1000
38	V 1/2 SP	39	20	24	50	1000
39	V 1 SP	40	25	24	70	1750
40	V 1/2 P	42	25	24	50	1250
41	V 1/2 PL	43	25	24	50	1250
42	V 1 SL	44	25	24	50	1250
43	V 1 SD	45	30	24	50	1500
44	V 1 K	46	25	28	50	1250
45	V 1 S	48	30	28	50	1500
46	V 1 SM	50	25	28	50	1250
47	V 151	51	25	28	50	1250
47,5	V 1 LM	52	25	28	50	1250
47,8	V 1 L	52.5	25	28	50	1250
48	V 1 W	53	25	28	50	1250
49	V 1 WM	53.5	25	28	50	1250
50	V 1 M	54	25	28	50	1250
52	V 1 1/2	55	25	36	50	1250
53	V 1 1/2 K	56	30	36	50	1500
54	V 1 1/2 S	57	30	36	50	1500
55	V 2 G	58	30	36	36	1080
56	V 2 M	59	30	36	36	1080
57	V 2	61	30	36	26	780
58	V 2 S L	63	30	36	26	780
60	V 2 L	65	35	36	36	1260
62	V 2 S	68	40	36	30	1200
63	V 2 1/2 K	69	40	36	30	1200
65	V 2 1/2 S	70	30	36	36	1080
68	V 2 1/2	73	40	36	30	1200
69	V 2 1/2 R	74	40	36	30	1200
70	V 3 S	76	40	36	30	1200
71	V 3 1/2	78	25	48	24	600
73	V 3 1/2 L	81	25	48	24	600
75	V 4 S	82	25	48	35	875
77	V 4	84	40	48	26	1040
79	V 4 L	86	40	48	16	640
80	V 5	88	40	48	16	640
82	V 5 K	90	40	48	16	640
83	V 5 L	91	40	48	16	640

Size	US code	Stuffing diameter	Strand length	Hornfit	Strands/carton	Meters/carton
84	V 5 1/4	93	40	48	16	640
85	V 5 1/2	94	40	48	16	640
88	V 5 N	97	40	48	16	640
89	V 6 G	99	40	48	16	640
90	V 6 M	101	40	48	16	640
91	V 6 K	102	40	48	16	640
92	V 6 N	103	40	60	16	640
95	V 6 S	105	40	60	16	640
96	V 6	106	40	60	16	640
100	V 6 1/2	109	40	60	16	640
102	V 6 1/2 M	111	40	60	16	640
104	V 7	114	40	60	16	640
105	V 7 T	115	40	60	16	640
106	V 7 L	116	40	60	16	640
107	V 7 1/2	117	40	60	16	640
108	V 7 1/2 2K	118	40	60	16	640
109	V 7 1/2 2L	119	40	60	16	640
110	V 8S	122	40	60	16	640
111	V 8T	123	40	60	16	640
112	V 8	124	40	60	16	640
113	V 8 1/2	125	40	60	16	640
114	V 8 1/2 M	125	40	60	16	640
115	V 8L	127	40	60	16	640
118	V 9M	131	40	60	16	640
120	V 9	133	30	75-80	16	480
127	V 9L	136	30	75-80	16	480
130	V 9 1/2	139	40	75-80	16	640
133	V 9 1/2 K	139	40	75-80	16	640
135	V 10	147	40	75-80	16	640
140	V 10 L	144	40	75-80	16	640
145	V 10 1/2	150	40	100	10	400
150	V 11	156	40	100	10	400
153	V 11 L	158	40	100	10	400
160	V 11 1/2	167	40	100	8	320
165	V 12	172	40	100	8	320
169	V 12 1/2	176	30	100	6	180
175	V 12 L	180	30	100	6	180
185	V 13	200	30	100	6	180
190	V 14 L	190	30	100	6	180
195	V 14	203	30	100	6	180
210	V 18	216	40	100	3	120
230	V 20	236	40	100	3	120
245	V 24	252	40	100	3	120

Smoke.

Fibrous smoke casing has an internal liquid-smoke layer, which is transferred to the meat during processing. We offer E and S smoke liquids, both of which have the same high coloration levels but with different taste profiles. Adhesion levels can be adjusted, and both smoke types can be combined with a caramel color for a Black Forrest type of finish. All smoke products are available shirred and in reels.

E-level	S-level	Color	Benefits	
Low	S-1	Lightest	Increased productivity	Reduced process time, less weight loss
Medium	S-3	Medium	Increased smokehouse capacity	Even color, no rack marks
High	S-5	Darkest	Reduced cleaning in smokehouses	No cost for smoke generation
			No smoke emission	Almost no weight loss

Netting.

Net is an eye-catching product that provides a pleasant and genuinely handmade look and feel. Netted casings can be manufactured with different adhesion and release levels and are available as shirred and pre-clipped strands.

Colors and patterns

We offer honeycomb, diamond and square net patterns for all dry, semidry, cooked and smoked sausages. As standard, these are offered in white, but other colors can be offered upon request.

Using netted ViskoTeepak

Netted casing should be soaked as standard fibrous. Strands are pre-clipped, and the clips shouldn't be removed when stuffing starts. Always stuff very tight to secure a perfect look and make sure that the brake is sufficiently loose for the casing to slide through. As a rule of thumb, use a clip at least twice as big as standard, because it may be required in order for the clip to close properly.

Net offering

Type	RSD	Elastic	Nonelastic	Eyes
W 784	47		Honeycomb	6
W 811	57	Honeycomb		6
W201	58	Diamond		6
W 744	58		Honeycomb	6
W 803	62	Honeycomb		6
W 725	80		Honeycomb	8
W 731	83		Honeycomb	6
W 806	90	Honeycomb		8
W 724	95		Honeycomb	8
W 737	100		Honeycomb	9
W 758	100		Honeycomb	9
W 625	102	Square		16
W 748	112		Honeycomb	6
W 818	145	Honeycomb		12



Technopack / Tipper Tie recommendations

Casing diameter	Stuffing tube	Clip
28	18	E 200, E 210
32	20	E 200, E 210
35	20	E 200, E 210
37	24	E 200, E 210
39	24	E 210, E 220
40	24	E 210, E 220
43	24	E 210, E 220
45	24	E 220, G 175, 370
48	32	E 220, G 175, 370
50	32	E 220, G 175, 370, E 410, E 510, Z 400
53	36	E 220, E230, G175, 370, E 410, E 510, Z 400
55	36	E 230, G 175, G 200, 370, E 410, E 510, Z 400
58	36	E 230, G 200, 390, 410, E 510, Z 400
60	36	E 230, E 240, G 200, 390, E 410, E 510, Z 400
65	36	E 240, G 200, 390, E 410, E 420, E 510, Z 400
68	42	E 240, G 200, 390, E 420, E 520, Z 400
70	42	E 240, G 200, 390, E 420, E 520, Z 400
75	48	E 240, G 200, 390, E 420, E 520, Z 400
77	48	E 240, G 200, 390, E 420, E 520, Z 400
80	48	E 240, G 200, 390, E 420, E 520, Z 400
83	48	E 240, G 200, 390, E 420, E 520, Z 400
85	48	E 240, G 200, 390, E 420, E 520, Z 400
88	48	G 225, 400, E 420, 520, Z 400
90	48	G 225, 400, E 420, E 520, Z 400
92	54	G 225, 400, E430, E 530, Z 400
95	54	G 225, 400, E 430, E 530, Z 400
100	54	G 225, 400, E 430, E 530, Z 400
106	48	G 225, 400, E 430, E 530, Z 400
110	60	G 225, 400, E 430, E 530, Z 400
114	60	G 250,400, E 430, E530, Z 400
120	60	G 250, 400, E 430, E530, Z 400
130	60	G 250, E 430, E 530, Z 400
140	100	Z 410
150	100	Z 410
160	100	Z 410
165	100	ZR 42
175	100	ZR 42
185	100	ZR 42
195	100	ZR 42
210	100	ZR 42
230	100	ZR 42
245	100	ZR 42

Poly-Clip recommendations

Casing diameter	Stuffing tube	12 R Clip	XS R - ID Clip	S R - ID Clip	15 R Clip	18 R Clip	M R - ID Clip	L R ID Clip	XL R ID Clip	S Clip
28	18	12-06/4x1.25	XS06-150	S05-125	15-06/4x1.50	18-07/5x1.75	M06-125			S128
32	20		XS06-100	S05-150	15-06/5x1.50		M06-150			S628
				S06-150	15-07/5x1.50		M06-175			
35	20		XS06-100	S06-150	15-06/5x1.50	18-07/5x1.75	M06-125			S128
				S07-150	15-07/5x1.50	18-07/5x1.50	M07-150			S628
40	24			S07-150	15-07/5x1.50	18-07/5x1.50	M07-150	L07-175		S128
						18-08/5x1.75	M07-135	L08-200		S628
45	24			S07-150	15-07/5x1.50	18-07/5x1.50	M07-150	L07-175		S632
					15-08/5x1.75	18-08/5x1.75	M07-135	L08-200		S735
						18-08/5x2.00				S8740
50	24				15-08/5x1.75	18-07/5x1.50	M07-135	L07-150		S632
					15-08/5x1.50	18-08/5x1.75	M07-125	L07-175		S735
					15-09/5x2.00	18-08/5x2.00	M08-175	L08-200		S8740
55	28				15-10/5x2.20	18-08/5x1.75	M07-125	L07-150		S632
					15-09/5x2.00	18-08/5x2.00	M08-175	L07-200		S735
					15-08/5x2.00		M08-150			S8740
60	36				15-09/5x1.75	18-08/5x1.75	M08-175	L07-135		S632
					15-09/5x2.00	18-09/5x1.75	M08-150	L08-175		S735
					15-10/5x2.00	18-09/5x2.00		L08-200		S8740
65	36				15-09/5x1.75	18-09/5x1.75	M09-175	L08-175		S632
					15-09/5x2.00	18-09/5x2.00		L08-200		S735
					15-10/5x2.20	18-10x2.50		L09-200		S8740
70	36				15-09/5x1.75	18-09/5x1.75	M09-175	L08-175		S632
					15-09/5x2.00	18-09/5x2.00		L08-200		S735
					15-10/5x2.20	18-10/5x2.50		L09-200		S8740
75	48				15-10/5x1.75	18-10/5x2.00	M09-150	L10-200		S744
					15-11/5x2.00	18-11/5x2.20	M09-175	L10-225		S8744
						18-11/5x2.50				S844
80	48				15-10/5x1.75	18-10/5x2.00	M09-150	L10-200		S744
					15-11/5x2.00	18-11/5x2.20	M09-175	L10-225		S8744
						18-11/5x2.50				S844
85	48				15-11/5x1.50	18-10/5x2.00	M09-150	L10-225		S744
					15-11/5x2.00	18-11/5x2.20	M09-175	L10-200		S8744
						18-11/5x2.50		L11-250		S844
90	48				15-11/5x1.50	18-11/5x2.00	M09-150	L10-175		S744
						18-12/5x2.20	M09-175	L11-200		S8744
						18-12/5x2.50		L11-225		S844
100	48				15-11/5x1.50	18-11/5x2.20	M10-200	L11-200		S744
105	60					18-12/5x2.20	M10-175	L11-225		S8744
						18-13/5x2.50		L13-250		S844
110	60					18-12/5x2.20	M10-175	L12-200	XL12-250	S747
						18-13/5x2.50	M11-175	L12-225		S8748
								L13-225		S848
120	60					18-12/5x2.20	M11-175	L12-200	XL12-250	S747
	75					18-13/5x2.50		L13-225		S8748
	80					18-13/5x2.20				S848
130	60					18-13/5x2.20		L12-200	XL13-250	S854
	75					18-14/5x2.50		L13-225		
	80									
140	75					18-14/5x2.50			XL13-250	S854
	80									S860
150	75									S860
	80									
160	75									S860
	80									
170	75									S860
	80									

Alpina recommendations

Casing diameter	Stuffing tube	12 Flatclip	15 Flatclip	18 Flatclip
28	18	12/06-4x1.0	15/06-4x1.5	18/07-5x1.75
32	20	12/06-4x1.25	15/06-5x1.5	
		12/06-4x1.5	15/07-5x1.5	
35	20		15/06-5x1.5	18/07-5x1.75
			15/07-5x1.5	18/07-5x1.5
40	24		15/07-5x1.5	18/07-5x1.5
				18/08-5x1.75
45	24		15/07-5x1.5	18/07-5x1.5
			15/08-5x1.75	18/08-5x1.75
				18/08-5x2.00
50	24		15/08-5x1.75	18/07-5x1.5
			15/08-5x1.5	18/08-5x1.75
				18/08-5x2
55	28		15/10-5x2	18/08-5x1.75
			15/09-5x2	18/08-5x2
60	36		15/09-5x1.75	18/08-5x1.75
			15/09-5x2	18/09-5x1.75
			15/10-5x2	18/09-5x2
65	36		15/09-5x1.75	18/09-5x1.75
			15/09-5x2	18/09-5x2
			15-10/5x2.25	18/10-5x2.25
70	42		15/09-5x1.75	18/09-5x1.75
			15/09-5x2	18/09-5x2
			15/10/5-2.25	18/10-5x2.25
75	48		15/10-5x1.75	18/10-5x2
			15/11-5x2	18/11-5x2.25
			15/11-5x2.25	18/11-5x2.5
80	48		15-10/5x1.75	18/10-5x2
			15-11/5x2	18/11-5x2.25
			15/11-5x2.25	18/11-5x2.5
85	48		15/11-5x1.5	18/10-5x2
			15/11-5-2	18/11-5x2.25
			15/11-5x2.25	18/11-5x2.5
90	48		15/11-5x2	18/11-5x2
			15/11-5x2.25	18/12-5x2.25
				18/12-5x2.5
100	48		15/11-5x2.25	18/11-5x2.25
105	60			18/12-5x2.25
				18/13-5x2.5
110	60			18/12-5x2.25
				18/13-5x2.5
120	60			18/12-5x2.25
				18/13-5x2.5
130	60			18/13-5x2.5
				18/14-5x2.5
140	60			18/14-5x2.5

Technical support.

We're a customer-oriented company, and our Customer Service and Technical Sales Support group is a top priority throughout our operation. Below are some general tips and recommendations when it comes to fibrous properties and usage. First, let's talk about how you can initiate a trial and verification of ViskoTeepak's Fibrous casing.

Technical Sales Support (TSS)

The TSS team will be responsible for creating new business solutions for a value-driven environment. It supports the customer's effort toward enhanced business by providing solutions to problems. This is done with a tailored solution that improves the customer's operations and fine-tunes production processes to bring added value and increase yields. The members of the team have many years of experience and can provide support in aspects such as maximizing the benefits of fibrous casing usage, optimizing process parameters, troubleshooting casing operations and production, developing and tailor-making new products, and informing and educating customers about the casing industry and meat-technology topics.

How to initiate a TSS project

A TSS project is first discussed with the ViskoTeepak partner, your distributor and the sales manager in order to determine where our TSS service will be applied.

Giving our best . . . always with confidentiality

We work in a confidential, proprietary relationship with every customer. The information provided by TSS is based on our own research and development work and is, to the best of our knowledge, reliable. Users should, however, conduct their own tests to determine the suitability of our products and solutions. (All information is given in good faith but shouldn't be considered a warranty of any kind.)

Testing

Before deciding which fibrous casing is most suitable for a given application, a test run should be conducted under the prevailing production conditions. Together we can set you on the way to a perfectly tailored casing that suits your needs. The trial process needs to follow certain rules! Before starting the testing process, it's essential for us to obtain the information specified in the section "What is Fibrous casing."

Soaking

As mentioned at the beginning of the brochure, many of the properties of fibrous casing derive from the use of long-fibered paper in its construction. In order to activate these excellent properties, the casing has to be moisturized. A dry casing has strength but no elasticity. By effective moisturizing methods—such as pre-soaking as part of customization or soaking immediately before use at the sausage factory—the casing is given the right combination of strength and stretch in order to guarantee trouble-free sausage processing operations and reach the desired stuffing diameter. We recommend soaking in lukewarm drinking-quality water for between 30 and 60 minutes. Note that shirred EasyPeel strands require the longest soak. Ready-to-Use (RTU) casings eliminate the need for soaking.

Water vapor, oxygen and smoke permeability

Fibrous casing is permeable to gases. This property plays a crucial role in meat-product processes where smoking, maturation and drying are required. To render it permeable, the fibrous casing has to be humidified. So, care should be taken to ensure that adequate humidity is maintained during smoking. During the maturation and drying stages, water migrates through the casing wall, thereby keeping it humid and facilitating gas transfer. Large printed areas or labels on the casing are less permeable than the casing itself, so they can incur uneven vapor penetration and drying. Raster printing should be considered if large printed areas are desired.

Changes in production processes

For certain applications, it's necessary to improve either the meat-cling or the peeling properties of a fibrous casing by treating its inner surface. If the production process changes or doesn't correspond to what ViskoTeepak has been told, the casing might not perform as desired. For example, peeling problems can occur as a result of overdrying or overstuffing. In some cases, peeling can be improved by wetting the casing. Undesirable premature casing separation may result.

Samples.

Some important information is needed for the quick, successful delivery of a sample:

For casing:

- Stuffing diameter with accepted variation and absolute maximum
- Type of product: Maturing, processed (e.g., salami and ham)
- For maturing products: Weight loss and maturation time
- Other important info: Color, sliced or chubs, peeled frozen

For converting:

- Type of converting: Details, print, RTU, pre-sticking and length
- Stuffing tube: Diameter and length, usable length
- Desired meters per strand

For replacing existing product:

- Stuffing diameter with accepted variation and absolute maximum
- Currently used casing sample: Minimum 2 m in length but preferably 5 m
- Currently used casing identification: Manufacturer, preferably type and code
- Type of product: Cured, processed (e.g., salami and ham)
- For maturing products: Weight loss and maturation time
- Other important info: Color, sliced or chubs, peeled frozen
- Type of converting: Details, print, RTU, pre-sticking, length

Other info:

- Handle the samples with care. Don't staple or damage them.
- Don't let the samples dry out.
- Preferably vacuum-pack them or put them in a sealed plastic bag.

SAMPLES, always an opportunity!

A sample request is always a good thing; it's an opportunity for new business. However, in the beginning you set the parameters how fast and how successfully it's possible to manufacture the right samples!

There are some details needed, and the more we get the better your results will be. (It isn't possible to have too much information!) There are forms and lists available, so please get in touch with your contact person at ViskoTeepak and we'll supply the information requirements!

For a new product:

- Stuffing diameter: Desired, its variation and absolute maximum
- Type of product: Pepperoni, salami, ham, etc.
- Casing color: Preferably a ViskoTeepak color reference or another internationally used color indication (PMS)

- Type of equipment used in stuffing, including hornfit (HF) and clip type
- Processing/maturation method: Hanging or lying flat
- Delivery form and converting specifications: Pre-sticking, cut-and-tied or shirred, RTU, etc.
- Production volume: Potential, intended, etc.

For replacing existing product:

- Currently used casing sample: Minimum length of 2 m, preferably 5 m
- Currently used casing identification: Manufacturer, preferably type and code
- Stuffing diameter: Desired, its variation and absolute maximum
- Equipment used, including stuffing tube used and clip used
- Converting specs: Meters per strand, strand length, soakable or RTU, other special requirements

Sample request:

Distributor/company:				Maturation time in days:			
Date (dd/mm/yy):				Potential quantity in m:			
Stuffing diameter in mm:				Stuffing tube diameter/length in mm:			
Type of product:				Meters/strand:			
	Printing	Pre-sticking	Cut & Tie	Clip	Loop	Shirring	RTU
Type of converting:							
Other info:							
Person requesting:							

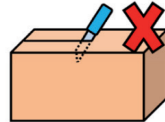
How to use shirred Fibrous casings correctly

1

Be sure that the casing is stored under the recommended conditions, i.e., at temperatures of 0-35°C, relative humidity of 50% to 70% and in the original packaging. Recommended shelf life for all fibrous casings is 24 months after manufacture date, except Net (12 months) and RTU (6 months).

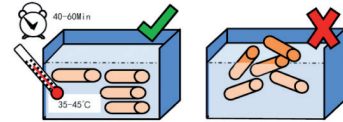
2

Start by verifying from the label that you have the right product (casing caliber, impregnation, color, etc.). Open the carton with care. Cutting may damage the casing.



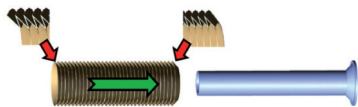
3

The casing must be soaked in lukewarm water for 30 to 60 minutes. Make sure you use clean drinking-quality water.



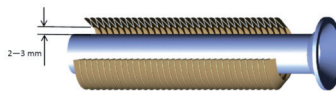
4

Remove the packing net without scratching the casing. Note the direction of the shirred casing when loading on the stuffing tube.



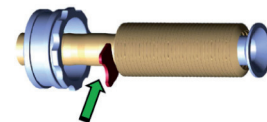
5

Check the hornfit diameter and usable strand length. The stuffing-tube (horn) recommendations can be found in this brochure.



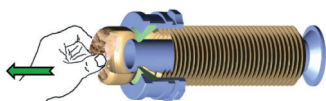
6

Make sure the strand is completely unfolded before it enters the brake ring. First, place the strand on the stuffing tube and then place the blocking plate.



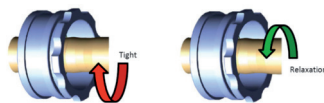
7

An easy way to adjust the brake ring correctly is by pulling the casing with your thumb and forefinger. The casing should be able to slide with a little friction but not too much.



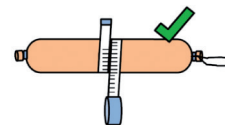
8

To prevent any casing breakage, make sure your equipment is properly set and the brake ring isn't too tight. Turn the screw flange clockwise for tighter setting, counterclockwise for looser setting.



9

Make sure the final sausage diameter corresponds to the stuffing diameter recommendations, and always note the seam code during tests.

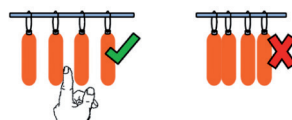


10

Verify stuffing to RSD and, if necessary, overstuff. The correct degree of stuffing will guarantee caliber stability and prevent fat separation and jelly formations. Don't overstuff in cooked applications where sausage is expected to swell much during cooking (containing swelling ingredients/starch).

11

Make sure there is enough free space between the hanged sausages and the surface of the sausage is "sticky" prior to smoking (note drying time/RH percentage).



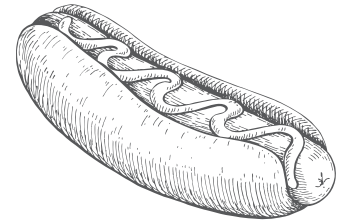
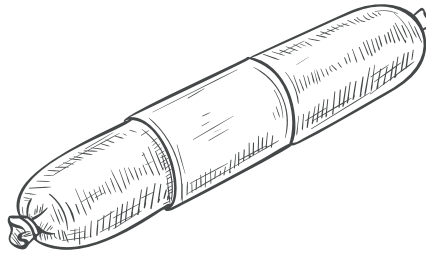
12

The cooking and cooling recommendations depend on the weight and length of the product. Cook in a horizontal or vertical position until the desired core temperature is reached. Cool with cold shower and avoid fast cooling in high airflow.

To ensure the best results, please follow our recommendations for hornfit and sausage stuffing diameter.



PRODUCT PORTFOLIO.



● Fibrous Family

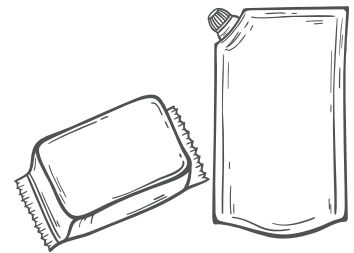
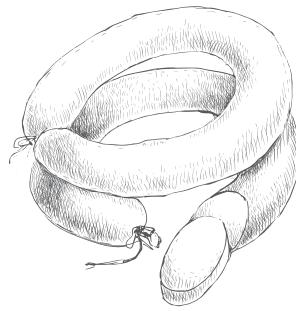
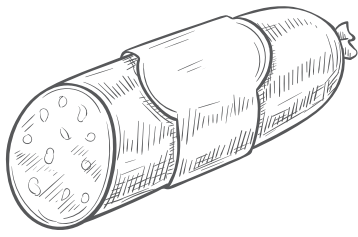
We're the world's leading manufacturer of fibrous casings, in terms of volume as well as variety. We offer the widest range of diameters, from the smallest to the largest casing diameter. Fibrous casings are used for a wide range of applications, such as pepperoni, salami, and lunch meats.

- **Fibrous Standard (ST)**
- **Fibrous MAX**
- **Fibrous Super Protect**
- **Fibrous Glide**
- **Fibrous Xtreme**
- **Fibrous XL/LCXL**
- **Fibrous Brilliant**
- **Fibrous FLX**
- **Fibrous CRF**
- **Fibrous Preserve**

● Cellulose Family

Our cellulose product line is called Wienie-Pak. We're one of the big players in the cellulose-casing market as well. We offer our customers the most efficient cellulose casing available. Wienie-Pak is used for a wide range of applications, such as frankfurters, hot dogs, beer sausages, and mini-salamis.

- **Wienie-Pak Rapid Peel**
- **Wienie-Pak Colored Casing**
- **Wienie-Pak Window**
- **Wienie-Pak D-Tech**
- **Wienie-Pak Printed**
- **Wienie-Pak Logoprint**
- **Wienie-Pak Multicolor Printed**
- **Wienie-Pak Long-Shirred**



● Plastic Family

Our plastic product line is called Nova. The Nova casing is a combination of different types of high-performance plastic resins, which work together to provide a unique level of performance. Nova is used for a wide range of applications such as cooked hams, liver sausages, and pâtés.

- Core Series
- Shape Series
- Industrial Series
- True Series
- Permeable Series

● Collagen Family

We supply collagen casings from the world's top producers. We offer both edible and non-edible collagen for the US and German markets. Collagen is a strong and flexible casing that is used for a wide range of applications such as cooking, dry, and fresh sausages.

- Devro edible (Germany)
- Devro non-edible (Germany)
- Nippi edible (USA)
- Nippi non-edible (USA)
- Fibran non-edible (USA)

● Packaging Family

We're a full-line food packaging supplier to the meat and poultry processing industry. Our packaging materials and brands are today offered mainly in Germany, Canada, Mexico, the Nordics, and the U.S. Our packaging materials are used for a wide range of products such as pouches, shrink bags, and films.

- TNI Elastic Food Loops
- Evolv Shrink Bags
- Ally Films
- Vivid Pouches
- Vista Gel



Principles and guiding values.

ViskoTeepak is committed to conduct its business with honesty and integrity, to follow the law and to make sure that each employee and business partner is treated respectfully. We have the highest level of certification in the casing industry and act responsible when it comes to quality, health, safety and the environment.



Code of Conduct

The full text of our Code of Conduct is available in English on our website:

www.viskoteepak.com



Sustainability Report

The full text of our Sustainability Report is available on our website:

www.viskoteepak.com

Certificates	Lommel	Hanko	Delfzijl	Brno	Nuevo Laredo	Kenosha	Poznan
GFSI recognized food safety certification	★	★	★	★	★	★	★
Quality: ISO 9001	★	★	★	★	★		
Environment: ISO 14001	★	★			★		
OHS: ISO 45001	★	★					
Kosher	★	★	★	★	★	★	★
Halal	★	★	★	★	★	★**	★
EU Food Contact Compliance: (EC) No. 1935/2004	★	★	★	★	★		★
U.S. Food Contact Compliance: C.F.R. 21 FDA 170-199*	★	★	★	★	★	★	
U.S. FDA Food Facility Registration	★	★	★	★		★	
Customs and trade: AEO status	★	★	★				

*Applicable parts

**For alginate casing



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Always around

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